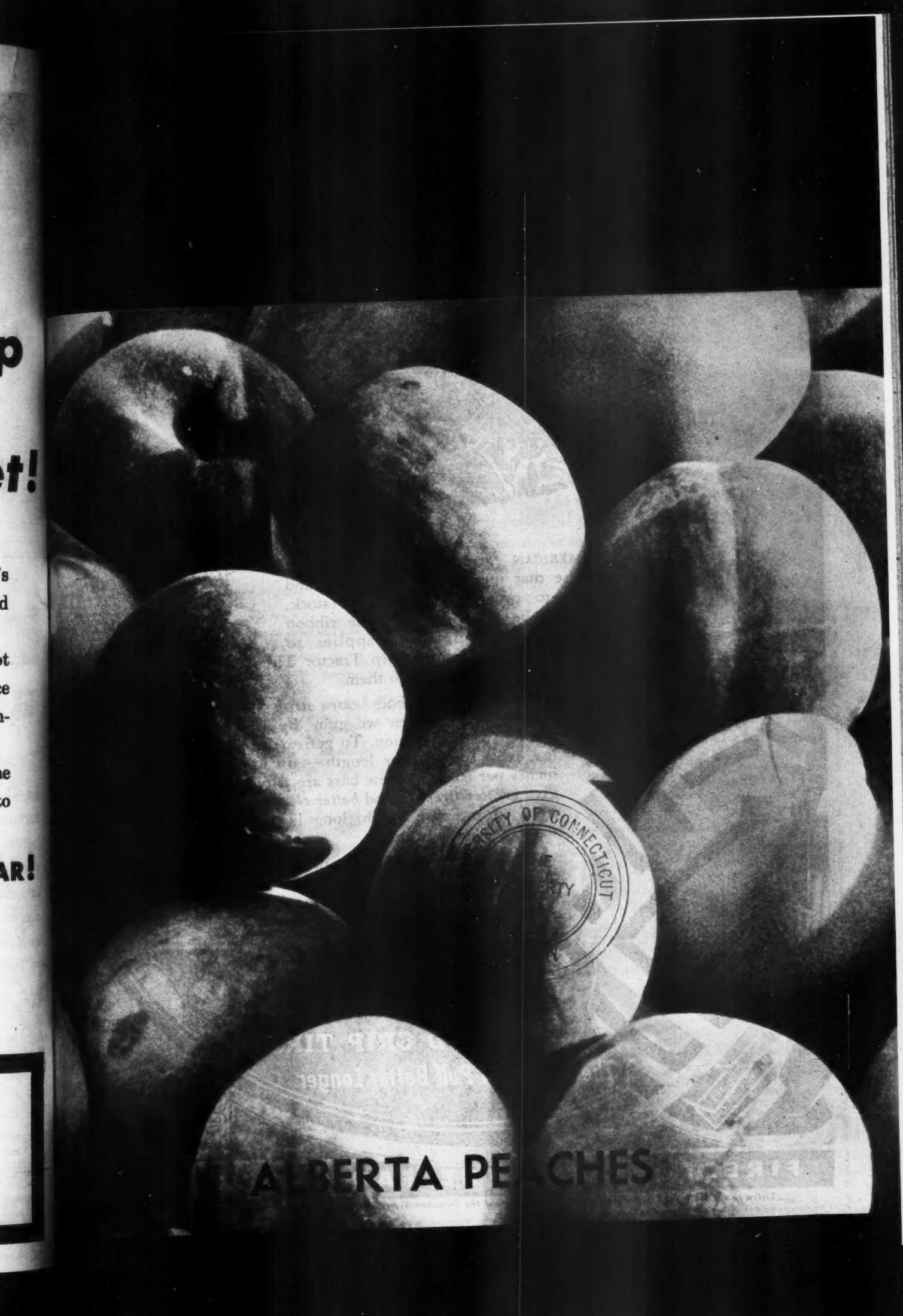
ALBERTA PE CHES

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HANG ON!

A GRATEFUL nation knows the job that is being done on the farms and gives thanks—three times a day! To produce more food with less help and less equipment, and to keep on doing it year after year, is an almost superhuman accomplishment.

War moved four million people from six million farms and still the crops were raised. War cut production of new farm equipment to less than one-fourth of peacetime levels and still the harvests came in. And now, in 1944, there is still more food to be grown.

Hang on. Help is coming. As fast as we can build and ship them, the tractors and combines, hay tools, corn machines, and many other labor-savers are on the way.

We, too, have learned to work harder and faster than ever before. War production taught us how—guns and torpedoes, half-tracks, prime-movers, and a hundred and one other military products have poured through our plants on schedule. Much of it is still in the works, but now we can also build many more of the machines of agriculture.

To an organization that has devoted one hundred and thirteen years to making farm equipment this is wonderful news. This is our chance to do a job we're cut out to do—supply our old friends, the American farmers, with more of the equipment they need. Increased production is now authorized. With all possible speed we're building it. See the International Harvester dealer and *grow more in '44!*

INTERNATIONAL HARVESTER COMPANY
180 North Michigan Avenue Chicago 1, Illinois

THE FARMALLS ARE COMING!

Side by side on the shipping dock at Tractor Works, Chicago, big crawlers roll away to the fighting forces while the Farmalls go off to help food fight for Freedom. Production is still limited on the "A" and "B" Farmalls. Bigger production is coming through on the Farmalls "H" and "M".

INTERNATIONAL HARVESTER

LETTERS TO THE EDITOR

Mr. Morganthau Subscribes

Dear Sirs:

Mr. Henry Morgenthau, Jr., desires to have a three years' subscription in his name to *American Fruit Grower*. I am enclosing his check for $1.00. The magazine should be sent to 2434 Belmont Rd., Washington, D.C. H. S. Klotz, Secretary

We are glad to have Secretary of the Treasurer Morgenthau as a subscriber and trust that his new profession of growing fruit will yield good returns.—Editor.

Tree Girdling Interest

Dear Mr. Fagan:

I was very much interested in your article, "Apple Orchard Management" in the May issue of *American Fruit Grower*. Especially so in the photograph and paragraph with regards to girdling trees to increase production.

Would you please send me Station Bulletin 290 in which details of girdling are fully reported.

Route 1, Berne, Ind. D. D. Mazelin

Station Bulletin 290 has been mailed.—Ed.

Ethyl Booklet Sent Free

Dear Sirs:

The Ethyl Corporation, as a help to wartime care of tractors, has gotten out two booklets, "Wartime Tractors" and "High Compression Overhaul and Service." These booklets give instructions for taking care of tractors regardless of the make. Those desiring them should write to the Ethyl Corporation, Chrysler Building, New York City. Requests will be filled as long as the supply lasts.

Columbus, Ohio W. J. Distler

Numbering Trees Helps

Dear Sirs:

We have found it a good idea to drive a little stake under each fruit tree with a number on it.

When the fruit is gathered in the fall we keep a record of each tree by referring to the number. Thus we know which trees produce the best and most fruit and which ones are not in good condition.

Lake Nebagamon, Wis. A. G. Hultquist

Thanks for grower Hultquist's simple yet valuable suggestion. Most growers can use such a system to advantage.—Ed.

A Grower Thanks Us

Dear Sirs:

Many thanks to you for kindly letter you have written to Mr. W. W. Magill for me. This surely was very kind and considerate of you. Rest assured that the favor is doubly appreciated. I have not as yet received any of the strawberry plants—Tennessee 148 and 263, but I am in hopes I shall get a few before a great while.

Elk City, Oklahoma I. A. Viersen

We appreciate grower Viersen's gratitude. Dozens of inquiries have come regarding how to get some of these new plants.—Ed.

Names Make News

Dear Sirs:

Yes, I am getting another stack of mail addressed to S. S. Magill, concerning strawberry plants of the Tennessee variety. I have been called all kinds of names and nick names, but this is the first series of mail I have gotten under the name of "S. S. Magill," which is according to your notice on page 7 of the May issue.

I am attaching a little write-up of the Kentucky Horticultural Society, for your next issue.

University of Kentucky, Lexington W. W. Magill

Never again will we turn a Willing Worker into a Simple Simon. Readers please take note.—Ed.

Letter From South America

Señor Editor:

Here is a little gift seed pack for you. It contains a group of mixed typical Ecuadorean seeds that our research has shown can be successfully grown in your own North American garden this Spring.

Three kinds of seeds are enclosed. First, the beautiful and exotic Passion Flower. Second, a wild flowering bush that is commonly called "Soap plant" because its fruit makes a lather that is excellent for clothes and for washing the hair. Third is the seed of the Achiote plant. These red seeds are used by the Colorados Indians to dye their clothes (such few as they wear).

A package of seeds will be sent free to all North Americans who care to write in and request them. Applicants should enclose either an International Reply Coupon or loose United States postage, with their name and address carefully printed or typewritten, no more. The address is below.

Please accept this small seed offering in a spirit of *good will*, friendship, and with our hearty wishes that the big brother to the North, the U.S.A., will always be the swell pal, the good neighbor that we here in South America are learning to appreciate more and more. We want you to know too, that this little Republic wants to share your burden in the fight for world decency. Viva Las Americas.

Casilla 315, Quito, Ecuador.

Sociedad Panamericana De I.T.

Our seeds are being planted and we say Viva Las Americas too.—Ed.

Control of Codling Moth

Dear Sirs:

We are enclosing a copy of our new Kryocide Codling Moth Folder, and believe your readers may find this information helpful in the control of the Codling Moth.

Any requests we receive for this folder as a result of an item in your publication will be serviced promptly.

Pennsylvania Salt Manufacturing Co.
Philadelphia, Penn. H. M. Ellsworth

Louisiana Pears

Dear Sirs:

We have numerous Sand Pears produced each year in St. Tammany Parish, Louisiana. Last year the crop was very short and no plans were made for its disposition. Year before last the A. & P. Tea Company had orders for Pear Butter, Marmalade and Preserves. I am writing you in the interest of the growers of the Parish to see if plans can be developed. Will those interested in buying Sand Pears please advise.

Covington, La.

George P. Naquin, county agent

We call Agent Naquin's letter to the attention of fruit buyers.—Ed.

This illustration shows the spraying operation in the Feicht orchard.

90% CLEAN FRUIT

T. H. PARKS

Ohio Extension Entomologist

"LOOK for the shortest fellow at the meeting. That probably will be him," so wrote J. C. Hedge, County Agricultural Agent of Mahoning County, Ohio, in describing Clyde Feicht of Greenford, who was the shortest orchardist at the Ohio State Horticultural Society meeting, but the one with the highest record of accomplishment in controlling apple insects and diseases in 1943. Clyde Feicht was there, but he was too modest to be present at the annual banquet where his remarkable record and how he made it was told to the 300 persons at the banquet.

The annual meeting of the Society, held in Cleveland, was a popular place to find orchardists, and, when not listening to lectures, they sat and talked shop. It was in one of these "lobby sessions" that the writer had an opportunity to see and talk with Clyde Feicht. He did not wear his badge as did most of the fruit men. Perhaps modesty kept him from doing that, but his description of how insects and diseases were fought in the Feicht Orchard helped to explain the reason for the remarkable accomplishment there.

Remarkable is not too superlative in describing this record for the family orchard near Greenford, where Clyde Feicht has charge of spraying. It bore apples in 1943 that scored 99.34 per cent clean of the tiniest insect or disease blemish. This figure was secured after 2400 apples of six varieties were inspected on the trees by specialists, representing the spray service given by The Ohio State University. This was accomplished in a season when frequent rains made apple scab difficult to control, and when some varieties bore very light, enabling insects to concentrate on the fruits present. The orchard stood first in Ohio in 1943 in freedom from insect and disease blemishes.

The Feicht Orchard yielded about 5,000 bushels, which was one of its lightest crops in recent years. The 50 acres of bearing orchard is in two blocks composed of 22 and 32 year old trees. The varieties are: Jonathan, Stayman, Winesap, McIntosh, Rome Beauty, Stark, Baldwin and a few Winter Banana. School boys had a major part in harvesting the apples last fall. Some of the Jonathan, Stark and McIntosh trees are quite tall and difficulty was experienced in getting the apples picked in the tops of the trees. Last year they cut the tops out of 50 to 55 trees for this reason. Though the apples were inspected in the very tops of some of these trees, not the tiniest speck of apple scab was found in the orchard. By some means the spray had been driven up to the very tops.

Just to prove that this success had not been accidental, the records of the orchard for the past three years failed to reveal the presence of any apple scab. In each of these years the fruit scored above 97 per cent clean of insect and disease blemishes. W. L. Feicht, owner of the orchard, had set the stage for the present performance through years of careful management, including pruning as well as spraying. He has built up a retail trade through careful grading and packing. Mild of manner and modest about his business success, he is the kind of man who gets equal enjoyment out of smoking, or chewing his cigar, providing it conforms to his chosen brand.

Clyde Feicht's story begins with the statement that they use 50 to 55 four-hundred gallon tanks of spray on the orchard per application in the pre-bloom period, and increase this to 65 to 70 tanks toward the end of the season. Since they have few vacant trees, this averages from 15 to 20 gallons per tree. The older McIntosh trees probably receive as much as 30 gallons. The orchard is in sod, the ground is level, and the sprayer used is a liquid duster. This delivers a mist-type of spray driven by a heavy blast of air from a rather short delivery tube. Clyde Feicht operates this himself standing on a rear platform. He contends that experience counts in getting the proper coverage with a liquid duster and an inexperienced man on the delivery tube may fail to cover all parts of the tree. He believes that the secret consists of keeping the delivery tube moving constantly and he has no trouble reaching the topmost branches. He sprays only with the wind and, when the wind changes, covers the opposite side of the tree. This method results in much of the tree surface getting a double application. The trees are all pruned so that the interior can be covered by the spray mist breaking 12 to 15 feet away. The motor driven fan makes quite a loud "siren-like" noise so that it is heard a mile or more away, and the neighbors say that the Feichts utilize all of the daylight hours in spraying. They do not spray at night, or when the foliage is wet. Neither do they spray when the temperature is extremely high. The orchard pests were combatted by means of a duster some years ago, but that method has been given up.

The spray schedule followed is that recommended by the County Agricultural Agent and the Ohio Spray Service. This consisted in 1943 of three complete cover sprays before bloom for apple scab, using a combination of liquid lime-sulfur and wettable sulfur. The calyx-cup spray consisted of wettable sulfur, lead arsenate, lime and zinc sulfate. On a part of the orchard nicotine sulfate was included in this spray at the rate of 3 quarts per 400 gallon tank. This was to control red bug and leafhoppers.

The calyx-cup spray was followed by three complete cover applications for apple scab, codling moth and curculio. These sprays were applied when recommended. They carried wettable sulfur, lead arsenate, lime

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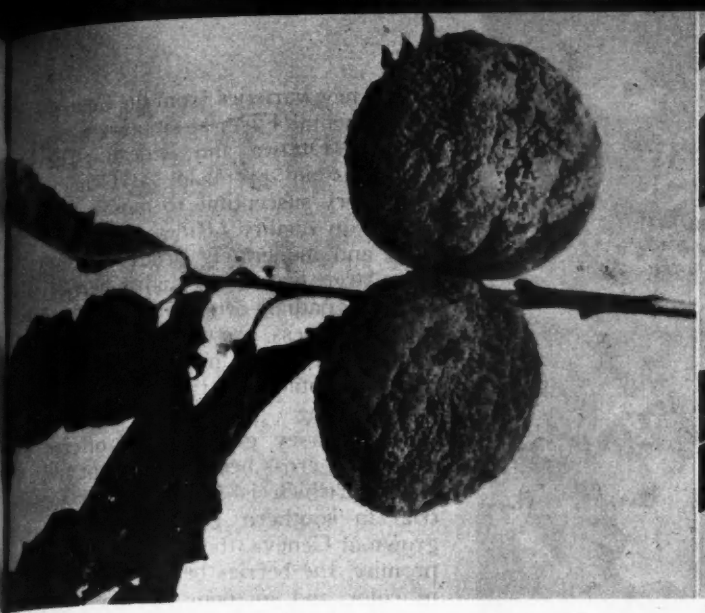


Figure 1—Above are peaches, showing masses of brown rot fungus spores on surface of fruits. These fruits are completely spoiled.

Figure 2—Here are peaches in the final stages of brown rot. These hard mummies should be picked separately, hauled away and burned.

BROWN ROT OF PEACHES

JULIAN H. MILLER, Plant Pathology

University of Georgia

BROWN rot is generally considered to be the chief disease of all stone fruits. The casual fungus not only attacks peaches, but is also found on apricots, nectarines, almonds, plums and cherries.

There are two closely related fungi, both producing the symptoms of brown rot. One of these forms occurs wherever peaches are grown in North America and even in Australia and New Zealand. The other form is found in Europe and on our Pacific Coast and in British Columbia.

Economic Importance: While brown rot has been well known as a serious disease of peaches from colonial days to the present era, it has only assumed serious proportions with the advent of large commercial orchards near the turn of the century. Prior to the discovery of the use of sulphur sprays, about 1907, the losses were often most severe and a fifty per cent loss was not uncommon, especially in the southern peach growing states.

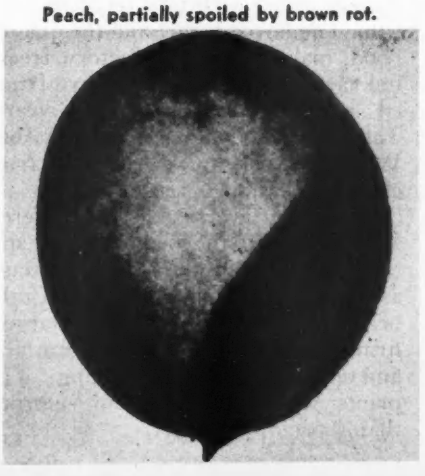
The average yearly reductions have always been heavier in the warmer southern states and have been progressively lighter in the north and west. In many arid parts of western states it is still not a serious factor. The estimated average annual loss by states from brown rot during the decade of 1920-1929, varied from .2 per cent in Washington to 19.5 in South Carolina, with New York 6.7 and Ohio 4.2 per cent. This does not include the rot in storage and in marketing.

Description of the Disease: The brown rot fungus often attacks the blossoms, producing a blight. Infections rarely occur during the pink stage, but as soon as the flowers open the petals may turn brown and shrivel without falling off. This early infection is very difficult to find in Georgia orchards, but is apparently an important factor in more northerly states.

The fungus grows from infected flowers into the young twigs, causing dark roughened cankers. Leaves developing on such twigs usually die. These limb cankers may also develop later in the season from infected fruits.

The most noticeable symptom consists of the fruit rot. Green fruits are rarely attacked, but susceptibility greatly increases as the peach ripens.

Peach, partially spoiled by brown rot.



Beginning with small dark brown spots the diseased area enlarges rapidly, and soon the entire peach is rotted. The illustration below shows a partly rotted peach, while those in figure 1 are completely destroyed and show the characteristic ashen-colored mold on the surface. Later such fruits will shrink and become hard mummies, figure 2. These often remain on the tree until the following spring.

This fruit rot not only occurs in the orchard, but peaches either in the refrigerator car or in storage house will develop these same symptoms even with greater rapidity than when on the tree.

The Cause of the Disease: The fungus, Monilinia fructicola, produces two stages. One forms the asexual spore masses on the rotten fruits during the growing season. These spores spread the disease to other peaches in the orchard or in storage. Then, when an infected peach becomes a mummy the fungus continues to live in the dried flesh and the following spring gives rise to cup-shaped bodies bearing the sexual spore. The latter form only when the mummy lies in a damp spot such as in a rut in grass. These spores are ejected into the air about the time peaches bloom, depending on temperature and humidity. They serve as one of the primary sources of infection.

These mummies, especially those hanging in the tree, may also pro-

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—U.S.D.A. Photo

New or old varieties of strawberries taste mighty good to this little fellow.

NEWER SMALL FRUITS

By GEORGE L. SLATE
New York Experiment Station

THE breeding of small fruits has received much attention at American and Canadian experiment stations in recent years and many new varieties have been developed and introduced. In fact, so many new varieties are now being offered to fruit growers that it is difficult to determine which are worthy of trial, unless information concerning their origin, adaptability and characteristics is available.

Several red raspberries have been introduced recently and most of them are seedlings of Lloyd George, an English variety, that has been an outstanding parent in the breeding work at several stations. Milton is one of the newest, and it originated at the Geneva station as a cross between Lloyd George and Newburgh. The berries are large, long conic, bright red, firm, and of excellent quality. They ripen slightly after Latham. The special feature of Milton that makes it worthy of trial for commercial purposes is its characteristic of escaping mosaic, even under conditions favoring rapid spread of this disease. It is a vigorous grower and produces good crops.

Washington and Tahoma are new varieties from the Washington station which are recommended for trial in that State. The former resulted from crossing Cuthbert and Lloyd George, the latter from crossing Lloyd George and Latham. Washington resembles Cuthbert in fruit and plant characters. The berries are larger, firmer and lighter red than those of Cuthbert and ripen later in Washington. The canes are very vigorous, bear heavy crops, and in Washington are hardier than Cuthbert. It is recommended for freezing and canning by the Washington station. Tahoma is offered as a market variety, being of bright red color and firm. The flavor is tart and the quality good, making it a satisfactory freezing variety. Both varieties have fruited at Geneva for several years. Tahoma is too small and soft, but Washington is much better in fruit character although less hardy.

Oregon growers have been offered Willamette by their experiment station, a variety of the same parentage as Milton. As compared with Cuthbert in Oregon it is much larger, firmer and more acid. For canning and freezing it is outstanding. The plants are more hardy and vigorous than those of Cuthbert.

Two new varieties from the Central Experimental Farm at Ottawa, Canada, are Ottawa and Rideau. The former is not promising at Geneva, being very susceptible to mosaic and lacking in quality. Rideau is rather early and moderately promising and bears large, firm, good quality berries. If its Canadian origin indicates unusual hardiness, growers in the colder sections of the United States and Canada should find this variety well worth trying.

New Jersey growers are offered Sunrise, a cross between Latham and Ranere, which is recommended for trial in southern New Jersey. As grown at Geneva, the variety is of no promise, the berries being small, dull in color and of poor quality. The crop is light.

Marian is a recent purple raspberry that seems slightly more resistant to mosaic than Sodus. It is equally large, a few days later and somewhat more acid. It is well worth trying by growers of purple raspberries.

Morrison is a recent black raspberry well worthy of trial as a late-ripening sort. The berries are large, attractive and of good quality.

New strawberries are legion and several are good ones. Sparkle from the New Jersey station is one of the best. The plants are unusually vigorous and numerous and produce good crops. The berries are fairly large, firm, attractive, medium red, and of high quality. It ripens late and is well worthy of trial for market and home garden. The chief fault is a tendency for the berries to be somewhat smaller than is desirable under certain conditions. Redwing from the same station is larger and even later than Sparkle and is a close second to that variety in merit. It is of excellent quality, but is somewhat rougher in appearance than Sparkle.

Many growers are interested in growing varieties for freezing. Of the newer varieties, Julymorn, from New Jersey, Burgundy from Minnesota, and Vanrouge from Ontario, all make a fine frozen product. Julymorn is more productive than the others, but Burgundy produces fair crops of berries that are lacking in dessert quality. Vanrouge is rather unproductive at Geneva. The frozen berries of these varieties compare favorably in quality with Marshall, still important on the Pacific Coast but nearly out of cultivation in the East.

Redstare is the latest of all strawberries beginning 12 days later than Howard 17 (Premier). The berries are very firm and of good quality, but at Geneva the variety is too unproductive for commercial purposes.

Starbright is very firm, attractive

(Continued on page 21)

COLD STORAGE for APPLES

By WILLIAM K. STEUK
Sandusky, Ohio

Cold storage for apples, located on federal highway No. 6, three miles west of Sandusky, Ohio. Adjacent salesroom has been an incentive for additional retail and wholesale business.

A PART of our fruit growing enterprise is 60 acres of apples. These are mostly bearing trees fairly young in life, so it has only been the past 10 years that large crops have been produced. Up to that time efforts were entirely directed to establishing and maintaining the orchards and inefficiently disposing of the small yields of apples. Large crops were with us before we knew what to do with them. Retail sales were small and most of the crops were sold at harvest time to wholesale dealers at prices not particularly favorable to us.

We became aware that there is no money in raising apples; money can only be made by selling them, and selling them well. We realized that the whole marketing program would be helped by a cold storage on the farm. Harvesting and packaging then would be facilitated, but above all, the crop of apples could be sold over a period of eight months rather than during the turmoil of harvest.

First, where to locate the building was a problem. There were two choices, along the main road which is federal route No. 6, three miles west of Sandusky, Ohio, or adjacent to the packing house about 300 feet from the road. The location along the road was finally selected because we wished to develope retail and wholesale business at the farm to its maximum. We decided that a storage with connected salesroom would have great advertising value and would induce many buyers to stop at the farm.

The storage was constructed during 1943 and, consequently, many war time building and priority restrictions were encountered. Separate priorities for the building and refrigeration machinery were obtained mainly through the local county war board. Permission to go ahead with the building was secured first, but permission to purchase refrigeration machinery was very slow in being granted. In fact, we proceeded with construction so the building could be converted into a common storage if necessary.

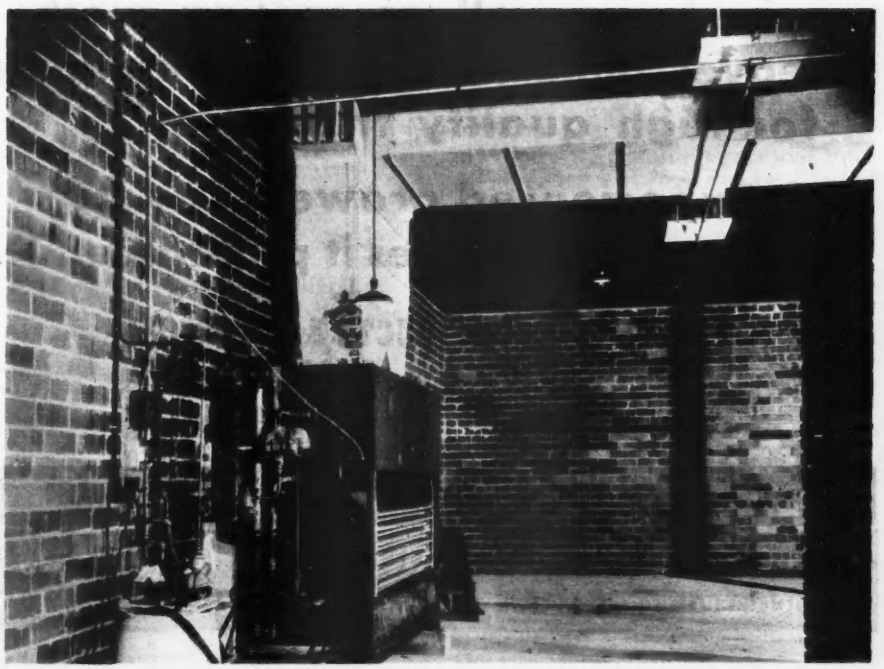
Certain building materials were not available for this type of work, particularly structural steel, so plans were made to conform with supplies. Walls were made of hollow building tile, floor of concrete and cork board, and roof and ceiling of wood and composition board. Even these materials, that were at the time non-essential, were difficult to obtain and deliveries were slow. So we had many worries that would not occur during peace time construction projects.

The outside dimensions of the main building are 60 feet long, 40 feet wide, with a floor to ceiling height of 14 feet. This provides storage space for approximately 10,000 bushels in crates. The salesroom is 30 feet long and 12 feet wide. The compressor room was built to accommodate the machinery, according to the recommendations of the engineer who supervised the installation of the refrigeration. A water pond was provided to cool and re-use the water because a continuous supply was not available.

In its broad essentials a cold storage is merely a building, properly insulated in floor, walls and ceiling, and provided with satisfactory re-

(Continued on page 18)

The interior of the storage is neatly arranged and well constructed. This shows the blower unit with automatic controls which regulates temperature and humidity. At right are boxes of fruit.



NATIONWIDE NEWS

New Equalization Rates

THE War Food Administration has announced a new schedule of freight equalization payments, designed to encourage the proportionate distribution of apples from the Pacific Northwest into all sections of the United States. The new schedule amends a previous schedule effective December 13, 1943.

The payments are designed to help equalize transportation charges on shipments from Washington, Oregon and Western Idaho (Zone VI) in order to encourage and maintain equitable distribution of apples to all consuming areas and at the same time to permit Western growers to obtain returns for their fruit comparable to those being received by Eastern growers. The new schedule of payments was placed in effect because of the increase in freight rates from Pacific Coast points to transcontinental destinations. The new schedule of freight equalization payments and the increase in freight rates from the Pacific Coast went into effect April 25.

Under the new schedule, the WFA will make payments ranging from 5½ to 58 cents per standard packed box and from 8 cents to $1.12 per hundred-weight on apples shipped in bulk, loose packed, or in non-standard boxes. The payments will be made to eligible shippers for the benefit of whomever pays the freight charges.

Workers Down, Wages Up

A BUREAU of Agricultural Economics report says in part: People working on farms the first of April numbered 9,180,000—or about 3 per cent lower than for the same date last year; and the general level of farm wage rates was at an all-time high. The index of farm wages was 292 percent of the 1910-14 average—17 points higher than on January 1 this year and 53 points higher than on the first of April a year ago. . . . All sections of the country indicated sharp increases in farm wage rates from April last year, with the largest gain recorded by the Pacific Region, where the index rose 57 points during the 12-month period. . . . The index of supply of farm workers available April 1 this year was 54 percent of the 1935-39 average. The estimated number of unpaid family workers—7,401,000 on April 1 is only slightly lower than the 7,433,000 working on farms April 1, 1943, but is about 200,000 or around 3 percent less than the April 1 average for the period 1935-39. Hired farm employment dropped about 10 percent from 1,875,000 April 1, 1943, to 1,679,000 April 1, 1944.

DDT Kills Houseflies

ONCE the war is over a new and powerful insecticide with an almost unpronounceable chemical name but known as DDT will be available for use against man's age-old enemy, the common housefly. DDT is deadly against flies. It is not likely to become available for ordinary civilian uses until after the war. When sprayed on walls and ceilings, DDT leaves an invisible deposit of a substance highly toxic to flies. Only a few minutes exposure to this material will cause death to flies in from 30 minutes to 6 hours. Even months afterwards flies lighting on the sprayed surfaces are quickly killed.

Wear and Tear and Profits

ALL the money that farmers have in the bank after wartime operating costs are paid isn't profit. Much of it represents wear and tear on machinery and buildings, and also soil depletion. It's depreciation money that hasn't been spent, but it's money that must be spent sooner or later if the farmer is going to stay in business. The logical thing to do is to put this money in war bonds now. Then it'll be available after the war to buy equipment, put buildings back in good condition, and build up the soil. *The Kentucky Farmer's Home Journal*, April.

Cover Crop Helps Peaches

TO circumvent the destructive root-knot nematode in peach orchards, the U. S. Department of Agriculture has obtained good experimental results by surrounding the trees with cover crops resistant to this soil-infesting pest. What might be called an opposite method, the use of plants particularly attractive to the pest as trap cover crops, has not proved successful.

The use of the resistant cover crops might be compared to the strategic role of "interference" in football. The peach tree is comparable to the player carrying the ball. "Interference" is obtained by planting cover crops so unappetizing to the pest that it becomes impossible for the nematodes or opposition to grow normally and multiply sufficiently to tackle the tree.

Jamaicans for Farm Work

ARRIVAL of 804 workers, the first of 12,000 to 13,000 which the WFA Office of Labor plans to bring into this country from Jamaica in 1944 for employment in critical farm labor shortage areas, has been announced by the WFA. The entire number is expected to be here by the middle of July. All of the 804 are to be employed on farms in the Hartford, Conn., area. Seven hundred and fifty workers in a second contingent soon due to arrive will be assigned to farms in New Jersey, Pennsylvania, Ohio, Michigan, and Illinois.

Strawberry Crop Light

STRAWBERRY Production for 1944 is estimated by the U. S. Department of Agriculture at 5,441,000 crates which is 23 percent less than the 1943 production and 52 percent less than the ten-year (1933-42) average.

Production of strawberries in New York is estimated at 217,000 crates which is 30 percent less than the 1943 production and 33 percent less than the average.

Both acreage and yield of strawberries is below average in most of the important producing areas. Kentucky, Michigan, Oregon, and Washington are the few important states with prospective yields above average, although their acreages are smaller than normal.

Killing Rats and Mice

PRELIMINARY work recently completed at the University of Connecticut has developed an effective method of controlling rats and mice in apple cold storage plants. Methyl bromide, a non-explosive chemical in liquid form that produces a very penetrating gas, was successfully used for this purpose in experiments conducted by F. W. Southwick, assistant professor of pomology, and F. B. Schuler and G. N. Alpaugh of the U. S. Fish and Wildlife Service.

The research was undertaken at the request of fruit growers who often experience severe rodent damage in their storage plants under conditions where poison baits are difficult to use or are ineffective. Methyl bromide as a fumigant proved highly satisfactory in controlling the pests when used at cold storage temperatures.

APS

CONDUCTED IN THE INTERESTS OF THE AMERICAN POMOLOGICAL SOCIETY

PEACH PROBLEMS

PEACHES came in for an extended discussion during the annual APS convention at St. Louis. The peach session was led by Dr. M. J. Dorsey, Head, Department of Horticulture, University of Illinois, Urbana. Professors R. L. McMunn and R. A. Kelly of the Illinois University staff presented "An Analysis of the Peach Industry, 1920 to 1940." This 60 page analysis will appear in the Proceedings of the St. Louis meeting. The peach industry is very much in the spotlight at this time.

Said McMunn and Kelly, "If the peach tree population of 1910 is compared with that of 1940, it will be found that during the 30-year period there was a decrease from 136,722,900 trees to 68,867,222 trees; an average loss of 2,261,855 trees per year. This decrease, however, did not take place at a uniform rate, thus from 1910 to 1920 there was a decrease of 49,508,937 trees; this loss was then followed by an increase of 1,771,056 trees to 1925.

From 1925 to 1930 there was a loss of 9,988,723 trees and from 1930 to 1935 a further loss of 11,977,234 trees occurred, bringing the total number of trees in the country down to 67,069,062, the lowest number recorded during the century. (The number of bearing trees in 1935 was 6,926,781 greater than in 1940; trees not of bearing age in 1935 were 8,724,941 less than in 1940). After 1935 the population was increased by 1,798,160 to 1940. The loss of 18,396,741 trees during the 20 years, 1920-1940, was, however, in marked contrast to the loss of 49,508,937 trees during the ten-year period, 1910-1920.

"Although the tree population has been drastically reduced, the average national production has increased; thus the average annual production for the four years, 1899-1902, was 37,287,000 bushels (99,919,428 bearing trees in 1900), that of 1903-07 was but 34,637,000 bushels, the lowest 5-year average during the century. From the low of 1902-07, production has increased, reaching an all time

high of 61,785,000 bushels for the 5-year period 1938-42. The first 50 million bushel crop was harvested in 1912; the first 60 million crop in 1915 and the two 70 million bushel crops in 1931 (77,053,000) and ten years later in 1941 (74,451,000). It is also of interest that of the sixteen crops in excess of 50 million bushels, four were produced before 1920; four during the 1920's; six in the 1930's and two in the 1940's. (Two of the 1940 crops have been over 65 million bushels.

"From the above brief statements about the national changes it can be seen that the national crop has been greatly increased even though the tree population has been reduced almost one-half. This increase in production came about by securing higher production per tree, which in turn was gotten by the removal of trees located in regions not adapted to peach production; locating orchards on better soils and sites, better management of the soil, pruning and control of insects and diseases. For the most part the improvement in management has taken place only in orchards planted for commercial production and to a great extent only in areas where a considerable number of growers are in the business of peach production."

Speaking of maturity, Mr. Mark Roche of the Kroger stores said, "That the acceptance on the part of the consumer leaned very heavily toward a tree-ripened peach at its full maturity stage."

Delegates from various states reported on the peach situation in their respective areas and presented many pertinent facts relative to planting, to varieties, and to marketing, as influenced by competitive areas and varieties.

The discussions on the peach-variety situation brought out a pertinent fact: namely, that there is a persistent demand, in nearly every producing region, for early ripening peaches of good quality. Elberta still retains a commanding lead over all other varieties as a commercial variety. There are some new varieties, however, that are making a strong bid for at least a part of the preeminent place so long held by Elberta. A one-variety situation in the peach is not economically sound.

The National Peach Council is organized to do for peaches what the National Apple Institute is doing for apples. The National Peach Council deserves the full support of every peach grower so that in its advertising and in its marketing projects, it may serve the peach industry efficiently and effectively.

H. L. Lantz
Secretary.

STATE NEWS

TENNESSEE—Among the fruit growers who have been experimenting with quick freezing is H. L. W. Hill of Portland. Four years ago with four associates he bought equipment for quick freezing strawberries. Although they succeeded in stabilizing their fresh fruit market, they felt that several thousand dollars could just be chalked up to experience. However, in 1942, backed by their experience with freezing strawberries, they contracted for wild blackberries, and repeated and increased this venture in 1943. A similar enterprise was started in East Tennessee, and now it is estimated that the gross income from the wild blackberry crop was nearly half a million dollars.

When the gates of the Kentucky Dam on the Tennessee River shut next spring, the water will back up 184 miles and make a shoreline 2,200 miles long. The lake will be several miles wide, nearly ten in some places. Prospective orchardists are inquiring into the possible benefits to be derived from this for fruit growing. Since Alfred Swann, Dandridge, reports that frosts come two weeks late in the fall on the shores of the much smaller Douglas Lake, it seems likely that for a short distance inland, at least, there would be some delay in fruit bloom. Experienced fruit growers are interested in investigating potential orchard sites, especially those which offer roadside marketing possibilities.—A. N. PRATT, State Horticulturist.

NEBRASKA—The season in this State has been very backward. As late as May 9 the cluster bud spray had not yet been applied, and growers were growing more anxious daily to get this done. There may be a little injury to apple, cherry and pears from the freeze which visited Nebraska orchards on May 4 when temperatures went down to 26 degrees. Strawberry flowers that were open were badly hurt.

Fruit growers around Nebraska City hope to partially solve their labor difficulties when a branch camp for German war prisoners from Clarinda, Iowa, Prison Camp is established. A meeting was held May 4 among growers to make plans for this undertaking.—E. H. HOPPERT, Extension Horticulturist.

KANSAS—With 21 April days of rain or snow, unprecedented weather was climaxed on May 5 by a cold wave and a drop in temperature to four degrees below freezing in many parts of the State. However, in the heavy apple producing sections of northeast Kansas, the bloom on the fruit trees was still in the cluster bud and, at this writing, the freeze damage seems to be negligible to apples.

Continuous rains and soft grounds have prevented timely spraying for scab control.—GEO. W. KINKEAD Sec'y, Topeka.

MONTANA—Sweet cherry growers in the Flathead Lake region of western Montana will market approximately three-quarters of a million pounds of Bing and Lambert cherries this season. Practically the entire crop will be shipped to eastern markets with two cooperative marketing associations handling the bulk of the fruit.

The Flathead Lake Cherry Growers Association, Inc., of which W. M. Wayman, Bigfork, is secretary, operates a warehouse and packing plant on the Great Northern Railway right-of-way at Kalispell. Another packing house is maintained on the Northern Pacific Railway right-of-way at Polson, of which Will Tiddy, Polson, is secretary.

Flathead Lake sweet cherries are of very fine size and flavor. Due to cool nights and moderate daytime temperatures of this area, the fruit is firm and has excellent shipping qualities. These cherries usually ripen about two weeks later than Washington and other Pacific Coast cherries.

With the planting of some 35,000 sweet cherry trees during the years 1936-37, the Flathead Lake region now ranks as one of the large cherry producing districts of the United States.—MILDRED KELSO, Bigfork.

INDIANA—Midwest fruit growers will watch with interest the results of the use of the new Speed sprayer in the Dixie Orchards, at Vincennes. Under the supervision of Earl Byers and his son, Mark, who is now in the Armed Services, the Dixie Orchards have a reputation for quality plus production. With the departure of Mark to the Army, an older son, Robert, has returned to work with father.

Earl has recognized for a long time the need for speedy cover and frequent application of sprays if major insects and diseases are to be satisfactorily controlled. To speed up his orchard protection program in past years he has supplemented liquid spray applications with dust with very satisfactory results.

Apple scab has been favored by the weather that has prevailed in Indiana through most of April and up to the middle of May. Frequent and heavy rains have kept the ground spongy and made difficult the movement of portable machines through the orchards. These same rains have provided ideal conditions for the spread and development of apple scab and have washed off spray coverage, at the same time promoting rather rapid development of foliage. All of these factors have combined to make frequent application of fungicide essential to satisfactory control and have tested to the utmost the ability of the orchardist to apply his knowledge of disease control in the orchard.

The apple bloom in Indiana orchards has been characterized as "spotty" by the growers. Indiana growers will recall the discussion by Dr. Laurenz Greene, Chief in Horticulture at Purdue University, of problems in apple set at the last Annual Meeting of the Horticultural Society and from which we quote: "While we all hope the prediction is wrong, weather conditions—and scab—in 1943, would lead to the expectation of a rather light bloom generally in 1944, for most parts of Indiana. In addition, those same weather conditions would tend to make for weaker buds that will not set well."

Although Indiana apple orchards do not show prospects of a bumper crop, a potential crop larger than the 1943 production is now seen.—MONROE McCOWN, Sec'y, Lafayette.

KENTUCKY—Peach growers in Kentucky are quite optimistic about their prospects for this year, as most orchards are carrying a good commercial crop. Peaches certainly will stand more punishment in full bloom than they are given credit for, because here at the Experiment Station orchard at Lexington, in our variety test orchard, we had 16 degrees on April 5, during full bloom. The weather was cloudy and two or three snow storms hit during the night, to the extent that the ground was well covered the next morning, yet we have a good commercial set of practically all varieties.

We are making plans to introduce a large number of Macrocentrus ancylivorus parasites for oriental moth control in several peach orchards of the state this year. We have located a commercial firm in New Jersey that is equipped to sell them in quantities, and, through cooperation with the peach growers, our Experiment Station, and the Horticultural Society, this work will be carried on. These parasites have already proved their value in Kentucky peach orchards where they were introduced over 10 years ago. We think parasites offer the most promising way of holding the oriental moths in check.—W. W. MAGILL, Sec'y, Lexington.

NEW HAMPSHIRE—The apple men look forward to a bumper crop this year if the bloom has pulled through with a satisfactory set. Growers are beginning to think more seriously of the box situation and are being urged by the Society to take immediate steps to obtain their containers if they have not done so.

Plans for entertaining the New York-New England Apple Institute early in July are materializing. The Institute and the Society plan to hold joint meetings. Details will be announced as soon as plans are complete.—A. L. FRENCH, Sec'y, Concord.

FLORIDA—Now is the time to apply additional nitrogen and potash to pecan trees carrying heavy crops of nuts if adequate fertilizer has not been applied already, G. H. Blackmon, of the Florida Experiment Station, has advised growers.

(Continued on page 21)

Here are three prominent Indiana fruit growers: Earl Byers, center, and sons Mark and Robert. Mark, left, now is in army.

PRESIDENT TAFT GAVE THE STARTING SIGNAL

IT is June 1, 1909. For weeks the newspapers have been full of the exciting story. Now, before the New York City Hall five "horseless carriages"—an Acme, a Shawmut, an Itala and two Model-T Fords—are standing hub to hub.

Anxiously mechanics make final adjustments. Then, from the White House, President Taft flashes the starting signal. America's first transcontinental auto race is under way!

West of St. Louis, seven-day rains had turned the country roads into quagmires. Across the prairies and in Colorado average speeds were cut to ten miles an hour.

At Cheyenne, Wyoming, the big Itala quit the race. The others plowed on. Near the summit of the Cascades they fought their way against towering snow drifts.

Days later, Ford Car Number 2—the winner—entered the gates of Seattle's Alaska-Yukon-Pacific Exposition. It had crossed the continent in 22 days and 55 minutes, with New York air still in the two front tires!

As he awarded the trophy Colonel M. Robert Guggenheim said: *"Mr. Ford's theory that a light-weight car, highly powered . . . can go places where heavier cars cannot go, and can beat heavier cars costing five and six times as much, on the steep hill or on bad roads, has been proved. I believe Mr. Ford has the solution of the problem of the popular automobile."*

The proof of that statement no longer rests in a single car which won a race, but in the 30 million cars and trucks Ford has built since then. And today millions of them are providing reliable, economical transportation for wartime America.

Meanwhile the inventive genius and the precision skills associated with the name *Ford* continue to serve the nation in the mass production of giant aircraft and other means to victory.

In the days of peace ahead, Ford's resourcefulness in developing new ideas and new methods will again produce soundly-engineered motor cars, priced within the reach of the largest number of people.

FORD MOTOR COMPANY

Ford

BROWN ROT

(Continued from page 7)

duce the asexual spores. During wet warm days in the early spring one can see the same ash-colored spore masses on them that later appear on the ripe fruit. Then twig cankers of the previous year may also produce the asexual spores.

The brown rot fungus may remain alive in the mummy for six to eight years if it has been turned under by the plow.

In an average well kept commercial orchard, at least one with no sod, most of the mummies remain too dry to produce the sexual stage, and so the asexual spores are the chief source of reinfection in the spring.

The optimum temperature for the growth of the fungus is about 75° F. but infections may occur anywhere between 32° F. and 90° F. While high temperatures are favorable, the humidity is probably more important, especially in epiphytotics. In Georgia the maximum infections have occurred during long rainy periods prior to ripening.

Susceptibility to the fungus does not vary much with varieties. Blossom blight is usually more severe on the early ones such as Red Bird and Mayflower.

Control of Brown Rot: As long as the fungus lives over the winter in mummies, or in cankered twigs, one of the first steps in control is to gather up every rotten peach and allow no mummies to form. Then no one should be permitted to eat peaches in the orchard. Spores will develop even on peelings, carelessly thrown on the ground. It is not sufficient to haul rotten or discarded fruits into a nearby woods. The wind can effectively carry spores for at least one-half mile. It is safest to bury mummies in a sink and cover with lime. Also, one cannot rely on plowing under mummies or turning hogs into the orchard. In both cases enough will remain exposed to produce the disease.

It is important to remember that the same fungus occurs on other wild or escaped stone fruits. So the plums in adjacent woods and along the roadways should be grubbed out.

In proper pruning all infected twigs should be cut out and then hauled off and burned. During this operation one should remember that wide open pruning will greatly increase the effectiveness of later sprays, as well as let in more air and sunlight. Such trees will dry out more rapidly, and so there will be less spore formation.

Spray Schedules: Spraying or dusting have been found to be most effective in control of brown rot in normal years. The materials used as well as the number of applications vary with different sections of the country. A typical program is given below and attention is called to sectional modifications.

Dormant Spray: in late fall or winter before buds swell.

Concentrated lime-sulphur diluted to test 5° Baumé. The amount to use in 100 gallons of water depends on strength.

This spray has little effect on brown rot, but is especially necessary in the southern states for control of San José scale and peach leaf-curl.

Pre-blossom Spray: When blossoms show pink.

Concentrated lime-sulphur diluted to test 1° Baumé.

This should be applied in the north and west, or wherever blossom blight is important. It is not recommended for Georgia.

Calyx Spray: When about 75 per cent of the petals have fallen.

Wettable sulphur (follow recommendations of manufacturer).

Zinc sulphate.....	8 pounds
Hydrated lime.....	8 pounds
Arsenate of lead.....	2 pounds
Water to make.....100	gallons

This spray is effective against early stages of brown rot and scab as well as the curculio.

In far western states which do not have the curculio the arsenate of lead can be omitted from the program.

Shuck Spray: When calyxes are shedding. Repeat the calyx spray.

Fruit Sprays: Apply two weeks after the shuck spray.

Wettable sulphur (recommendations of manufacturer). Water to make 100 gallons.

This last spray should be repeated about four weeks before fruit ripens. The number of such sulphur sprays will depend on lateness of ripening of varieties.

If a dust is desired instead of a spray use 80 pounds of dusting sulphur, 5 pounds of arsenate of lead and 15 pounds of hydrated lime in place of the calyx and shucks sprays, and dusting sulphur alone to replace the two or more fruit sprays.

Some of the Georgia growers successfully control brown rot by applying two sprays and follow with two dusts.

Harvesting and Shipping: The pickers should leave on the trees all rotted fruits and the latter should not by any means be brought into the packing shed. When packers have to sort any rotted fruit they will spread a heavy spore load over peaches to be shipped and so increase the later rot. A final operation in the orchard should consist in picking off all discarded fruits.

COLD STORAGE

(Continued from page 9)

frigeration equipment. This gives a person who is planning a cold storage ample leeway to suit local needs and conditions.

The floor of the storage, starting from the bottom up is as follows: four inches of concrete, a coat of asphalt emulsion as a vapor seal, two layers of corkboard each, one inch thick, laid overlapping, another coat of asphalt emulsion, and finally a three and one half inch layer of concrete. The sides are a double tile wall, laid with a six inch space between and this space is filled with Palco Wool (shredded redwood bark), as insulating material. The inside of the outer wall is vapor proofed with asphalt emulsion. The ceiling consists from bottom to top as follows: one inch thick pieces of composition board nailed to the bottom of six inch joists, the space between the joists filled to the top with either Palco Wool or sawdust, and a layer of vapor proof paper placed on top. Construction must be conducted so the insulation materials are installed dry and will remain dry.

Refrigeration is the Frick Company blower type with ammonia as the refrigerant. That is, the cooling coils are constructed in a cabinet with air vents and fans so the air is drawn past the coils, becomes cooled, and then is blown to all parts of the storage through vents. Thus, the air continually circulates over the coils, out the vents, through the crates or baskets of apples, and back over the coils again. The coils, blower unit, and vents are located in the storage proper but the compressor and other items of machinery are located in an adjacent building. The only connection is two pipes through the wall, one the liquid ammonia coming from the compressor into the coils and the other the vaporized ammonia leaving the coils on the way back to the compressor. Also provided in the storage room is a small humidifying arrangement, consisting of a water pump, piping, and spray nozzles.

The total cost for all building, refrigeration, and other equipment was $10,000.00. Considering the capacity to be about 10,000 bushels, this gives a cost of $1 for each bushel capacity.

The technical details of cold storage construction and installation of refrigeration were beyond our knowledge and ability. We were greatly assisted by the advice of Mr. Donald Comin, storage expert of the Ohio Agricultural Experiment Station, the building contractor, and persons dealing with refrigeration equipment and insulation materials.

The following is a partial list of bulletins which were very helpful in our acquiring a knowledge of the details of a cold storage for apples.

FARM REFRIGERATED STORAGES by Earl L. Arnold, Bul. 724, Sept., 1939, Cornell University Exp. Sta., Ithaca, N.Y.

THE COMMON STORAGE, ITS CONSTRUCTION AND MANAGEMENT by Donald Comin, Bul. 573, Aug., 1936, Ohio Exp. Sta., Wooster, Ohio.

REFRIGERATED FARM APPLE STORAGES by Donald Comin, Bul. 632, Aug., 1942, Ohio Exp. Sta., Wooster, Ohio.

FARM STORAGES FOR NEW ENGLAND APPLES by Gunness, Cole, and Roberts, Bul. 360, Mar., 1939, Mass. Exp. Sta., Amherst, Mass.

CONSTRUCTION AND MANAGEMENT OF AIR-COOLED AND COLD STORAGES WITH SPECIAL REFERENCE TO APPLES by Roy E. Marshall, Cir. Bul. 143 (revised), Sept., 1939, Michigan Exp. Sta., E. Lansing, Mich.

Prunes to Civilians

WEST Coast packers have been authorized by the War Food Administration to release an additional 12 million pounds of dried prunes from their 1943 production for sale to civilians through regular trade channels.

THE FMC *Original* Fog Fire Fighter, originated and developed by Food Machinery Corporation, produces a dense fog which extinguishes the hottest fires as if by magic! This *different* fire fighting machine, delivering 600 pounds pressure at the nozzle, is a self-contained unit one man can operate single-handed! • The remarkable engineering skill and manufacturing resourcefulness that builds these Fire Fighters also created and manufactures FMC "Water Buffalo" amphibious tanks—weapons now helping the Army, the Navy and Marines smash the Japs on land and sea.

At right are shown a few representative products of Food Machinery Corporation, world's leading makers of food processing and packing equipment.

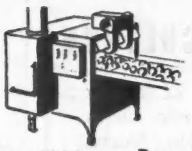
LAKELAND
AND
RIVERSIDE

Sprague-Sells Division. . . . A complete line of machinery for canning foods. Hoopeston, Ill.

Anderson-Barngrover Division Complete line of machinery for canning foods. San Jose, Calif.

Florida Division . . . Citrus and Vegetable Packing Equipment, and Food Protective Processes. Dunedin and Lakeland, Florida.

Bean-Cutler Division. Sprayers, Dusters and Packing House Equipment for Fruits & Vegetables, Fog Fire Fighters, Turbine Pumps. San Jose, California.



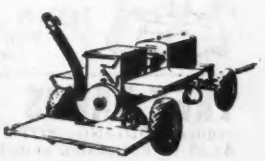
Texas Division . . . Protective Processes, Canning Machinery, Fruit and Vegetable Packing Equipment. Harlingen, Texas.

John Bean Mfg. Co. Fog Fire Fighters, Bean Royal Spray Pumps, Automotive Service Station Equipment. Lansing, Mich.

Peerless Pump Division. Deep well turbines, hi-lifts & pumps handling water for every purpose. Los Angeles and Fresno, California; and Canton, Ohio.

Riverside Division. Citrus Packing Equipment, Automatic Box Making and Lidding Machinery, Fruit and Vegetable Protective Processes. Riverside, Calif.

NIAGARA SPRAYER & CHEMICAL CO. Insecticides for protecting crops from insects and disease. Middleport, N.Y.; Jacksonville, Fla.; and Burlington, Ont., Can.



FOOD MACHINERY CORPORATION

EXECUTIVE OFFICES: SAN JOSE, CALIFORNIA

90% CLEAN FRUIT

(Continued from page 6)

and zinc sulfate. Thus, there were seven complete foliage sprays applied; no dormant application was made in 1943. However, it meant 14 times over the orchard with the wind, the machine being geared to keep moving slowly and stopping only at the tallest trees. Of the few blemishes found, curculio accounted for over half of them. The size and finish of the fruit were good, the foliage was free from spray burn, and there was no premature leaf drop.

The Feicht farm has an attractive fruit salesroom and neighbors bring their apples and other fruits to this market where they are sold along with the fruit grown by Feichts. Contracts with a chain of stores in Youngstown and Warren, Ohio, handle the attractively packed half-bushel baskets of apples and the fruit is stored immediately when picked but is not graded until-ready for packing and delivering to market. Off-grade fruit, if there is any, is sold to truckers.

Looking toward the future, the Feichts planted a young orchard three years ago.

The day of our visit to this modern fruit farm each member of the Feicht family was stationed at his or her post grading and selling fruit. The business is a family one with W. L. Feicht, the owner, his son Clyde, his brother, and grandson, all contributing toward the fine accomplishments of this farm.

NUT GROWERS' REPORT

THE Northern Nut Growers' Association will publish its report for 1943 this summer. Although no meetings have been held for two years, annual reports containing papers on various phases of nut culture are being published. These reports are considerably delayed owing to difficulties in procuring papers from busy members but eventually they will be published.

One of the features of the present report is a survey of the nut cultural activities of association members by John Davidson of Xenia, Ohio, chairman of the survey committee. The survey report is based on returns from a questionnaire, designed to secure as much information as possible on the culture of hardy nuts. The reports of Canadian, northern United States and southern members are discussed separately owing to widely different climatic conditions. Topics treated are adaptations of nut trees to soils and climates, temperature relations, soils, culture, insects, and diseases. Especial attention was paid to causes of failure and reasons for successes.—George L. Slate, Sec'y, Northern Nut Growers' Assn.

OPPORTUNITY ADS

Only 15c a Word—CASH WITH ORDER. Count each initial and whole number as one word. ADDRESS: AMERICAN FRUIT GROWER, 1370 Ontario Street, Cleveland 13, Ohio

BABY CHICKS

BEGINNERS GET HELM'S HELPFUL BULLETINS, books, FREE. Holder four world records. Officially tested. Approved. Heavy layers, wonderful layers. Immediate delivery. ILLINOIS HATCHERY, Metropolis, Illinois.

FOR SALE

MOST EQUIPMENT PREVIOUSLY ADVERTISED IS sold. Still have few ring packing forms and a Bean Royal 20 Spray outfit. J. R. LEIGHTY, St. Joe, Indiana.

FOR SALE: FOUR NEW PEACH GRADERS AND FOUR New Apple Graders. Priced for Quick Sale. Write HAMILTON & COMPANY, Ephrata, Lancaster County, Pa.

FOR SALE: NEW ORCHARD SPRAYER WITH BEAN 30-35 gal. per minute pump—300 gal. steel tank, mounted on truck with power take-off from truck motor or mounted on axle for power take-off from tractor. MORGAN McDERMOTT, 208 E. 8th Street, Traverse City, Michigan.

GRADE THREE TIRES. RAUDENBUSH, OLYMPIA, Washington.

FOR SALE: REBUILT CIDER PRESSES OF ALL sizes. Cider equipment and supplies. W. G. RUNKLES MACHINERY COMPANY, 185 Oakland Street, Trenton, New Jersey.

FOR SALE—LARGE CIDER PRESS IN GOOD CONDITION. GEORGE WALTERS, Seven Valleys, Pa.

NURSERY STOCK

DEPENDABLE FRUIT AND NUT TREES. SMALL fruits, Ornamentals, and General Nursery Stock. Combined catalogue and Planting Guide free. CUMBERLAND VALLEY NURSERIES, INC., McMINNVILLE, TENNESSEE.

NURSES TRAINING SCHOOLS

MAKE UP TO $25-$35 WEEK AS A TRAINED PRACtical nurse! Learn quickly at home. Booklet free. CHICAGO SCHOOL OF NURSING, F-6, Chicago, Illinois.

ORCHARD FOR SALE

FOR SALE—22-ACRE ORCHARD AND TRUCK GARdens with modern 8-room house and good barn adjoining Iowa City, Iowa. KOSER BROS., Iowa City, Iowa.

PATENTS

NATIONAL TRADE MARK COMPANY, MUNSEY Building, Washington, D. C.

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RABBITS

CHIN-CHIN GIANT CHINCHILLAS. KING OF RABbits. Most beautiful fur. Small investment. Large profit. Free illustrated booklet. WILLOW BROOK FARM, R. 32, Sellersville, Pa.

SONGWRITERS

WANTED ORIGINAL SONG POEMS! FIVE STAR MUSIC MASTERS, 716 Beacon Building, Boston, Mass.

STRAWBERRIES WANTED

WANTED TO BUY CAPPED STRAWBERRIES. WE are seeking large quantities of capped strawberries. Preferred delivery to some local cold storage plant or if cold storage not available could accept carload delivered to refrigerated car. Write, wire or phone us complete details of what you may have. THE STANDARD FRUIT PRODUCT COMPANY, Mr. Frank H. Payne, Jr., Cincinnati, Ohio.

TREE BANDS

EARLY BIRD TREE BANDS CHEMICALLY TREATED. Low in Price, high in quality. Send orders early. EDWIN H. HOUSE, Saugatuck, Michigan.

ORDER SURE-KILL BETA-NAPTHOL TREE BANDS now to insure delivery. M. A. KOELLER, Barry, Ill.

USED AUTO PARTS

SAVE! USED, GUARANTEED PARTS ALL CARS; transmission specialists. Describe needs fully! Immediate reply. VICTORY, 2439-AZ Gunnison, Chicago 25, Illinois.

WANTED

WANTED: USED BOX NAILING MACHINES; OTHER Box-making equipment; Fruit processing, canning, equipment; Roller conveyors; Winery equipment. Send full description, prices, location. J. WOLFSON, 304 Wood Street, Pittsburgh, Pa.

NATIONAL APPLE MEETING

THE annual meeting of the National Apple Institute will be held in Washington, D. C. on June 16 and 17. Mr. John Chandler will speak on "Apple Prospects," Mr. J. E. Klahre of Oregon, on the "Government's Need for a National Fruit Council," and other speakers will discuss other subjects.

SMALL FRUITS

(Continued from page 8)

and good, but it is too light a cropper for New York. Midland stands at the top of the list in dessert quality, but the crops are light. Dresden is a very heavy yielder of large handsome berries, about as good as Howard 17 (Premier) in quality. It is not as widely adapted as Howard 17 or Catskill, appearing to do better in the northern tier of states than farther south. It seems to be lacking in hardiness, but winters well when mulched early and thoroughly.

Good new red currants appear infrequently. Red Lake is now well established as a good standard variety. In Canada Stephens No..9 is a promising new variety. Limited tests at Geneva indicate that it is well worth trying. Minn. No. 52 from the Minnesota Station is also doing well at Geneva and is deserving of trial. The fruit characters of both are excellent, but the longevity of the bushes remains to be determined. Cascade is not promising at Geneva, the clusters not bearing more than 4 or 5 berries, and the bushes being unproductive.

STATE NEWS

(Continued from page 14)

NEW YORK—All fruits have advanced rapidly in New York State during May, after being held up by backward weather during April. Bud development has been so fast recently that it has been difficult to get the necessary cover sprays on in time to afford protection against the scab. This condition has been aggravated by considerable rainfall which has left some of the orchards impassable for heavy sprayers.

Sour cherries and pears are in full bloom in most of Western New York and apples will be in the next day or two. Pollination has been favorable so far and early orchards should be fairly well set. There has been no frost injury to date. Baldwins and Wealthys are light, R. I. Greenings spotted, Ben Davis fair, and McIntosh are generally good.

Farmers are short of help in this area and planning has been difficult due principally to confusion in regard to Selective Service requirements. Camps are being developed to house Jamaicans and war prisoners who are expected about June 1st. A cooperative labor organization is being formed to deal directly with the Government for this labor.

Growers are buying up used packages in anticipation of a shortage of all containers at harvest time.—HORACE M. PUTNAM, Asst. Sec'y, Lyons.

CALIFORNIA—For the fifth consecutive year, Southern California agriculture in 1943 topped its preceding year's record, as values of crops and livestock products soared to a new all-time high of $685,841,373.

The agricultural department of the Los Angeles County Chamber of Commerce released the story of this outstanding wartime achievement today, stating the total valuation is $170,000,000 or 33 percent higher than the record set in 1942.

Fruit yield advanced tremendously, returning $255,839,969 for an increase of 50 percent over the previous year, with production upped 65,700 tons despite the loss of 7000 acres mostly planted to truck crops.

Too Much Or Too Little?

FEARS have been expressed in many fruit growing circles that the increased acreage planted to fruits because of higher war time prices will result in serious overproduction in the years following the war.

Under normal conditions this would be the probable result, but a number of new factors may enter the situation. First, export of fruit to Europe is likely to be large. Many European orchards have been wrecked by war and most of the others have suffered from lack of care due to shortage of labor and insecticides. Until the new orchards come into bearing, Europeans must get much of the fruit they consume from outside sources, chiefly the United States. Another factor working against overproduction is the widening use of fruit by-products, particularly fruit sugars and fruit juices.

Vast quantities of apples are now consumed annually in making "Apple Honey," used in cigarette manufacture. This product has proved so satisfactory that cigarette manufacturers are not likely to drop it even when the glycerine compounds, formerly used, are available again.

Even more than fruit sugars, fruit juices promise far wider use after the war. Not only is the public learning the delicious taste and dietary benefits of fruit juices, but technical methods of producing them have gone forward with leaps and bounds under the speeded up tempo of war.

A new method of concentrating citrus juice by partial freezing and centrifuging was described last month by Dr. A. L. Stahl, of the University of Florida Agricultural Experiment Station. In the method developed by Dr. Stahl, juice from oranges and other fruit is extracted in an electric reamer and placed in a container under vacuum. It is then frozen to a slush consistency, the water of the juice freezing while the minerals and other dissolved solids remain in a semi-liquid state. A centrifuge separates the icy part of the slush, thus removing the water. If a quart of the frozen residue is mixed with three quarts of tap water, a gallon of fruit juice results that is almost exactly as it was when it was first squeezed. The Army has ordered 25,000 gallons of the concentrate for trial use and two commercial concerns are now setting up in Florida to make it.

Even more spectacular than this freezing-centrifuging method is that of the newly invented Stacum Press. In the Stacom Press, fruits and vegetables are subjected to such terrific pressure that the cellular bodies are broken up, releasing natural preservatives with the juices.

Juices thus extracted have been packed without heat of any kind being applied to them and kept as long as two years. These juices have also been dehydrated with no apparent loss of vitamin or chlorophyl content. While the Stacom Press method is still in an experimental stage, it holds vast promise for the future. All of these technological advances suggest that fruit consumption may be far higher during the decade following the war than in the one that preceded it. Instead of having too much acreage devoted to fruit, America *may* find that she has too little.

Keep Your DDT Shirt On

THE above title for this editorial was given us by Avery Hoyt of the U.S. Department of Agriculture. It is Dr. Hoyt's contention that there is more curiosity about DDT than even that spectacular insecticide merits.

Regardless of the large amount of experimentation that has taken place already much more remains to be done, according to Dr. Hoyt, before DDT can be released for general use as an insecticide. Dr. C. B. Roark, chief of the U.S. Bureau of Entomology, agreed with Mr. Hoyt in principle, although he thought that some DDT would be ready for release to farmers and fruit growers during 1945.

After talking to a number of U.S. D.A. officials and manufacturing chemists, we got the following picture of what was known about DDT and what it will do:

1—The problem of injury to plants by DDT has been practically solved.

2—The problem of injury to valuable insects requires much more experimentation. Present indications are that DDT, if used generally and in strong solutions, will kill almost any insect, good or bad.

3—DDT seems to be especially effective against Japanese beetles.

4—DDT is not likely to be particularly harmful to bees. Dr. James Hamilton, in charge of bees at the Beltsville, Maryland, Experiment Station, thinks that, if the calyx spray is omitted, bees will not be injured any more, possibly not as much, as by the use of arsenate and other materials. "DDT," says Dr. Hamilton, "is more of a toxic poison to insects like ants and flys that crawl on surfaces impregnated with it. The bee's habit of flying directly into one or more blossoms and then returning to its hive saves it."

5—DDT has already demonstrated its value as an indiscriminate killer of such universal enemies to man as the bedbug, the housefly and the mosquito.

6—DDT is not, as sometimes reported, nontoxic to man. "It is impossible," says Dr. W. H. Tisdale of the DuPont Experimental Laboratory, "to find any substance universally deadly to insects that is entirely non-harmful to man." "DDT," he says, "has probably the widest range of use of any poison ever invented, but the fact that it is such a deadly poison means that infinite experimentation must be done before all of its dangers, as well as all of its uses, are ascertained.

One Fruit Country

SEVERE May frosts in Kent, the main fruit growing section of England, will have a direct influence on supply and demand in this country. For the time being, at least, Great Britain is an economic part of our country. Much of what the British do not raise, we have to supply them. So the Kent frosts of May have the same bearing on fruit scarcity here as those of our own Southland in April.

Fruit Prospects Good

NOT in years have prospects for a bumper fruit crop appeared so good as at this writing. Peaches especially show wide, almost phenomenal, promise. April frosts cut the peach crop severely in the Carolinas, Tennessee, and to a lesser extent, in Georgia and elsewhere, but throughout much of the country the situation is almost perfect. Much of the promise for peaches, as well as other fruit, rests on the fact that last year's fruit yields were short. Trees stored up reserve energy for this year's crop.

Although bumper crop news is of primary interest to fruit growers, who can now hope to make up past deficits in earnings, it is also good for consumers. Nature promises to bless the nation with this delicious and vitamin-rich food element at the very time when national health is perhaps more important than ever before.

When their front "line" work is done...

Why Communications will need men

After the news of victory flashes over the wires, the Communications field will continue to be extremely active.

It will turn to the task of putting "loose ends" together all over the world, of repairing disrupted lines and wrecked facilities, of expanding existing systems and developing improved new services. Here are some of the reasons Communications will require plenty of workers:

1. *Millions need phone service*—Providing new lines and phones, unavailable since the war, will demand manpower...
2. *Many communications systems must be replaced*—Throughout the world those destroyed or outmoded during wartime must be rebuilt . . .
3. *New communications services* such as television, facsimile, and improved radio will expand the need for technical installations and skilled workers, many of whom will come from the specially trained men now with our armed forces.

Because of all this, phone, cable and radio communications companies expect their busiest peacetime era —with continuing manpower needs.

BUY MORE WAR BONDS to do today's job...to provide tomorrow's jobs

will they connect with jobs back home?

Nickel helps get the message through—in War and Peace

Today, Nickel with its specialized magnetic, electrical and mechanical properties helps war communications equipment to perform exacting jobs. It improves many things, ranging from radio tubes to transoceanic cables, and is well-nigh indispensable in the wartime apparatus used on land, sea and in the air.

But when war demands are satisfied, Nickel will be turned again to its peacetime function of improving the products that serve men and provide them work. It will be turned to the task of helping make more and better telephone, radio, television and cable equipment . . . and to its countless other jobs in rebuilding and replenishing a ravaged world.

Meanwhile, manufacturers with problems involving metals are invited to consult our technical staff.

The International* NICKEL *Company, Inc.
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World's largest miners, smelters and refiners of Nickel and Platinum metals . . . producers of MONEL *and other high-Nickel alloys*

STOP-DROP NEWS

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BIG APPLE CROP COMING

GROWERS TELL HOW STOP-DROP HELPS SOLVE LABOR SHORTAGE

Apple growers who have used STOP-DROP report results as high as 99% in holding the fruit on the trees, assuring normal color and better size and extending the picking time, which is a distinct advantage because of the shortage of help.

STOP-DROP has proven especially successful in preventing premature dropping of early varieties, such as Transparents, Duchess and Red June. Used on fall varieties such as Golden Delicious, Red Delicious, Jonathans, Wealthy and McIntosh, it has also been uniformly effective in holding the fruit for full color and bigger size. Growers in all apple belts state that the extra days that STOP-DROP holds the fruit on the trees makes possible proper harvesting despite the scarcity of pickers.

Extends Picking Season

Thomas S. Smith & Sons Orchard at Roodhouse, Illinois find STOP-DROP to be of special value at this time in extending the picking season. Thomas S. Smith says, "We found STOP-DROP to be particularly valuable to us when used on Jonathans because it not only prevented premature dropping of the fruit, but extended the picking season, which was particularly desirable, on account of a shortage of help, and STOP-DROP held the crop until we were able to harvest it."

From Sodus, New York, M. E. Norris reports that he sprayed his McIntosh apples with STOP-DROP with excellent results. "Not only were the apples of much better color and larger in size," he says, "but I am satisfied I would have lost 30% or more of the crop through premature dropping and delays in picking."

Actually Stops Drop

E. L. Brown, Triangle Orchards, Valley City, Illinois, used STOP-DROP on a Red Delicious block after the apples had started to drop and there were as many as a bushel of apples under some trees. He found that in a day or two the apples on the trees sprayed with STOP-DROP stopped dropping. "The spray seems to be effective for about 20 days," he reports. "In this block we left certain trees unsprayed to give us a check on the effectiveness of STOP-DROP. On the trees which were not sprayed the drop was as high as 50%. We estimate we saved from 7 to 8 bushels per tree by applying STOP-DROP."

SHORTAGE OF PICKERS IS FORECAST

Use of Stop-Drop Recommended to Hold Fruit on Trees

Announcements by U. S. Department of Agriculture officials state that this being the biennial year growers can expect a big apple crop, one far exceeding the 90,000,000 bushels in last year's short crop.

This year's bumper crop, it is pointed out, will be ready for harvest at a period when growers will face the greatest labor shortage so far experienced.

Since this country may be faced with shortages of certain essential foods by next fall every effort must be made to harvest the total apple crop by preventing premature dropping of the fruit.

Growers, it is pointed out, can greatly offset the shortage of pickers by spraying apple trees with STOP-DROP, the proven hormone harvest spray. In every apple belt last season growers reported success with STOP-DROP and the forecast is that this remarkable spray can save growers thousands of dollars this year by holding the bumper crop on the trees until pickers can harvest it.

Protection for Pear Crop

It is particularly important for pear growers to plan to spray with STOP-DROP this year for its use prevents premature dropping and also makes it possible to harvest a pear crop in one picking. This is of special importance to pear growers this year because of labor shortages and the wartime need of pears for canning.